REMARKS

In the last Office Action, claims 1-3 were rejected under 35 U.S.C. §102(a) as being anticipated by Mori (U.S. Patent No. 6,765,602). Claims 4-5 were objected to as being dependent upon a rejected base claim and were otherwise indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The Examiner acknowledged receipt and consideration of an information disclosure statement; however, the information disclosure statement referred to by the Examiner was not filed in this application and belongs to another application.

In accordance with this response, claims 1-5 have been revised in editorial respects to improve the wording, and new claims 6-14 have been added to provide a fuller scope of coverage. The specification has been revised in editorial respects and to provide a direct antecedent basis for the claim terminology.

Applicant and applicant's attorney acknowledge with appreciation the indication of allowability concerning claims 4-5. For the reasons given below, applicant respectfully submits that claims 1-3 as well as newly added claims 6-14 also patentably distinguish over the prior art.

The present invention pertains to a thermal printer which has been developed to provide easy maintenance and to facilitate exchanging and replacement of one thermal head with another. As often happens, during prolonged use of a thermal printer, it is not uncommon for damage to occur to the thermal head, which typically requires disassembly of the printer and replacement of the damaged thermal head. Such work is time consuming, requires trained technicians and is therefore costly. The present invention has been developed to overcome these drawbacks.

As disclosed in the drawings, the thermal printer according to one embodiment of the invention comprises an outer frame 18, a platen roller 12 rotatably supported by the outer frame 18, and an inner frame 16 detachably attachable to the outer frame 18. The inner frame 16 has assembled thereon a head support body 15, a thermal head 13 supported by the head support body 15, and biasing springs 14 which urge the head support body 15 toward the platen roller 12 to apply a pressing force between the thermal head 13 and the platen roller.

In accordance with the invention, the inner frame 16 together with the assembled head support body 15, the thermal head 13 and the biasing springs 14 are detachable as an assembled unit from the outer frame 18. In one embodiment, the detachable attachment is achieved by a slidable shaft 17 which slidably extends through holes in the inner and outer

frames 16 and 18 and which is releasably fixed in place, such as by a fixture 6, to prevent withdrawal of the shaft 17 from the holes in the inner and outer frames 16, 18. As shown in Figs. 2A-2B, the inner frame 16 can be easily detached from the outer frame 18 without need of disassembling any of the thermal head body 15, the thermal head 13 and the biasing springs 14 from the inner frame 16. This greatly facilitates replacement of the thermal head 13 and subsequent testing of the new thermal head, as explained on pages 3-4 of the specification.

Claims 1-3 were rejected as being anticipated by Mori under 35 U.S.C. §102(a). Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

Mori discloses a thermal printer having a thermal printer unit 50 fixed to a case 42 (column 3, lines 61-62). The reference numeral 50 does not denote a second frame, as stated by the Examiner, but rather refers in general to the thermal printer unit (see Fig. 5). A platen roller 60 is detachably attached to a frame 51. A head support body 55 supports a thermal head 54 (see Fig. 4), and a biasing member 56 urges the head support body 55 toward the platen roller 60.

However, unlike the present invention, in Mori the head support body 55, the thermal head 54 and the biasing member 56 are not "detachably attachable to the second frame in the state of being assembled with the first frame," as

required by independent claim 1. In Mori, the frame 51 together with the thermal head 54, the head support body 55 and the biasing means 56 are not detachably attached as an assembled unit to another frame. Instead, in Mori, the thermal head 54 and the head support body 55 are removable as a unit from the frame 51 (in the Fig. 4 embodiment), and the thermal head 54, the head support body 55 and the biasing means 120, 121 are removable as a unit from the frame 51 (Fig. 12 embodiment). However, such is not the same as the invention, in which the frame itself together with the thermal head, head support body and biasing means are detachable as an assembled unit from the outer frame.

In addition, claim 1 requires a second frame that holds the first frame and the platen roller. In Mori, in frame 51 holds the platen roller, and there is no second frame required by claim 1.

In the absence in Mori of the foregoing limitations recited in independent claim 1, anticipation cannot be found. See, e.g., W.L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) ("Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration"); Continental Can Co. USA v. Monsanto Co., 20 USPQ2d 1746, 1748 (Fed. Cir. 1991) ("When more than one reference is required to establish unpatentability of the claimed invention anticipation under § 102 can not be found".); Lindemann

Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added) ("Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim").

As claim 1 recites limitations that are not disclosed or suggested by Mori, Mori neither anticipates nor renders obvious claim 1. Claims 2-3 depend on claim 1 and are, therefore, likewise allowable.

Newly added independent claim 6 recites a thermal printer comprising an outer frame 18, a platen roller 12 rotatably supported by the outer frame 18, and an inner frame 16 detachably attachable to the outer frame 18 and having assembled thereon a head support body 15, a thermal head 13 supported by the head support body 15, and one or more biasing members 14, 14 for urging the head support body toward the platen roller 12 to apply a pressing force between a thermal head 13 and the platen roller. Claim 6 further requires that the inner frame 16 together with the head support body 15, the thermal head 13 and the biasing members 14, 14 be detachable as an assembled unit from the outer frame 18. For the reasons noted above with respect to the patentability of claim 1 over Mori, claim 6 clearly patentably distinguishes over Mori.

Dependent claims 7-14 define further features of the disclosed embodiments, and these claims are likewise patentable over Mori for at least the same reasons as is claim

6. In addition, claims 8-10 and 12-14 recite features of the detachable attachment of the inner frame 16 to the outer frame 18, and these features are not disclosed or suggested by Mori.

The other references of record have been carefully considered, and it is not seen where the combined teachings of all of the references including Mori disclose or suggest the invention recited in claims 1-14.

In view of the foregoing, the application is now believed to be in allowable form. Accordingly, favorable reconsideration and passage of the application to issue are respectfully requested.

Respectfully submitted,

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MAY 9, 2005
Date